Appendix G Potential Paleontological Sensitive Areas

The Potential Paleontological Sensitive Areas mapping was updated to be consistent with proposed project features. A description of the geologic formations was also added.

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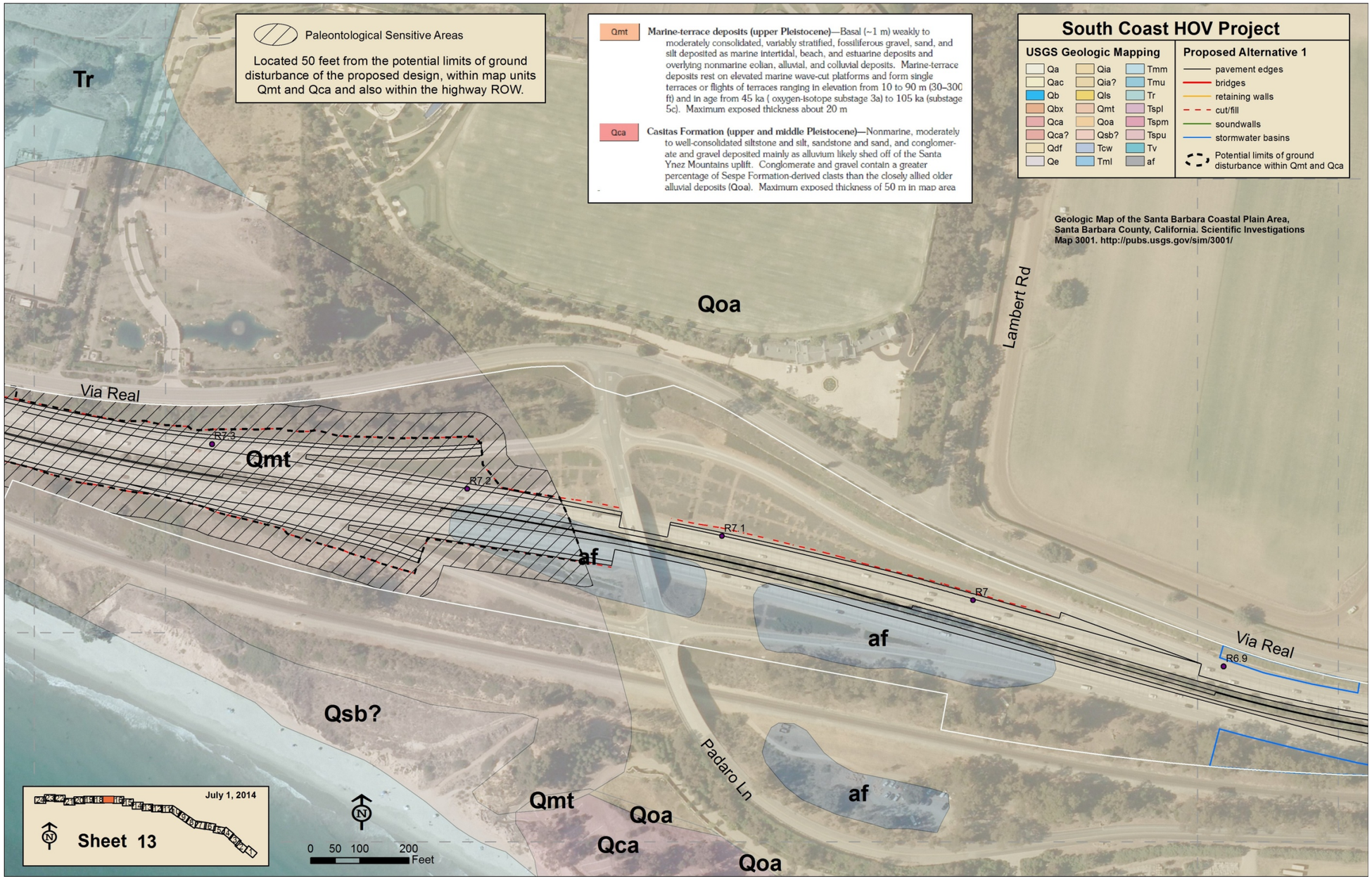
Paleontological Sensitive Areas
Located 50 feet from the potential limits of ground disturbance of the proposed design, within map units Qmt and Qca and also within the highway ROW.
Qmt Marine-terrace deposits (upper Pleistocene)—Basal (~1 m) weakly to moderately consolidated, variably stratified, fossiliferous gravel, sand, and silt deposited as marine intertidal, beach, and estuarine deposits and overlying nonmarine eolian, alluvial, and colluvial deposits. Marine-terrace deposits rest on elevated marine wave-cut platforms and form single terraces or flights of terraces ranging in elevation from 10 to 90 m (30–300 ft) and in age from 45 ka (oxygen-isotope substage 3a) to 105 ka (substage 5c). Maximum exposed thickness about 20 m
Qca Casitas Formation (upper and middle Pleistocene)—Nonmarine, moderately to well-consolidated siltstone and silt, sandstone and sand, and conglomerate and gravel deposited mainly as alluvium likely shed off of the Santa Ynez Mountains uplift. Conglomerate and gravel contain a greater percentage of Sespe Formation-derived clasts than the closely allied older alluvial deposits (Qoa). Maximum exposed thickness of 50 m in map area
South Coast HOV Project
USGS Geologic Mapping
Qa
Qac
Qb
Qbx
Qca
Qca?
Qdf
Qe
Qia
Qia?
Qls
Qmt
Qoa
Qsb?
Tcw
Tml
Tmm
Tmu
Tr
Tspl
Tspm
Tspu
Tv
af
Proposed Alternative 1
pavement edges
bridges
retaining walls
cut/fill
soundwalls
stormwater basins
Potential limits of ground disturbance within Qmt and Qca
Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California. Scientific Investigations Map 3001. http://pubs.usgs.gov/sim/3001/
Tr
Qoa
Lambert Rd
Via Real
R7.3
Qmt
R7.2
R7.1
af
R7
af
Via Real
R6.9
Qsb?
Padaro Ln
af
Qmt
Qoa
Qca
Qoa
July 1, 2014
Sheet 13
0 50 100 200
Feet

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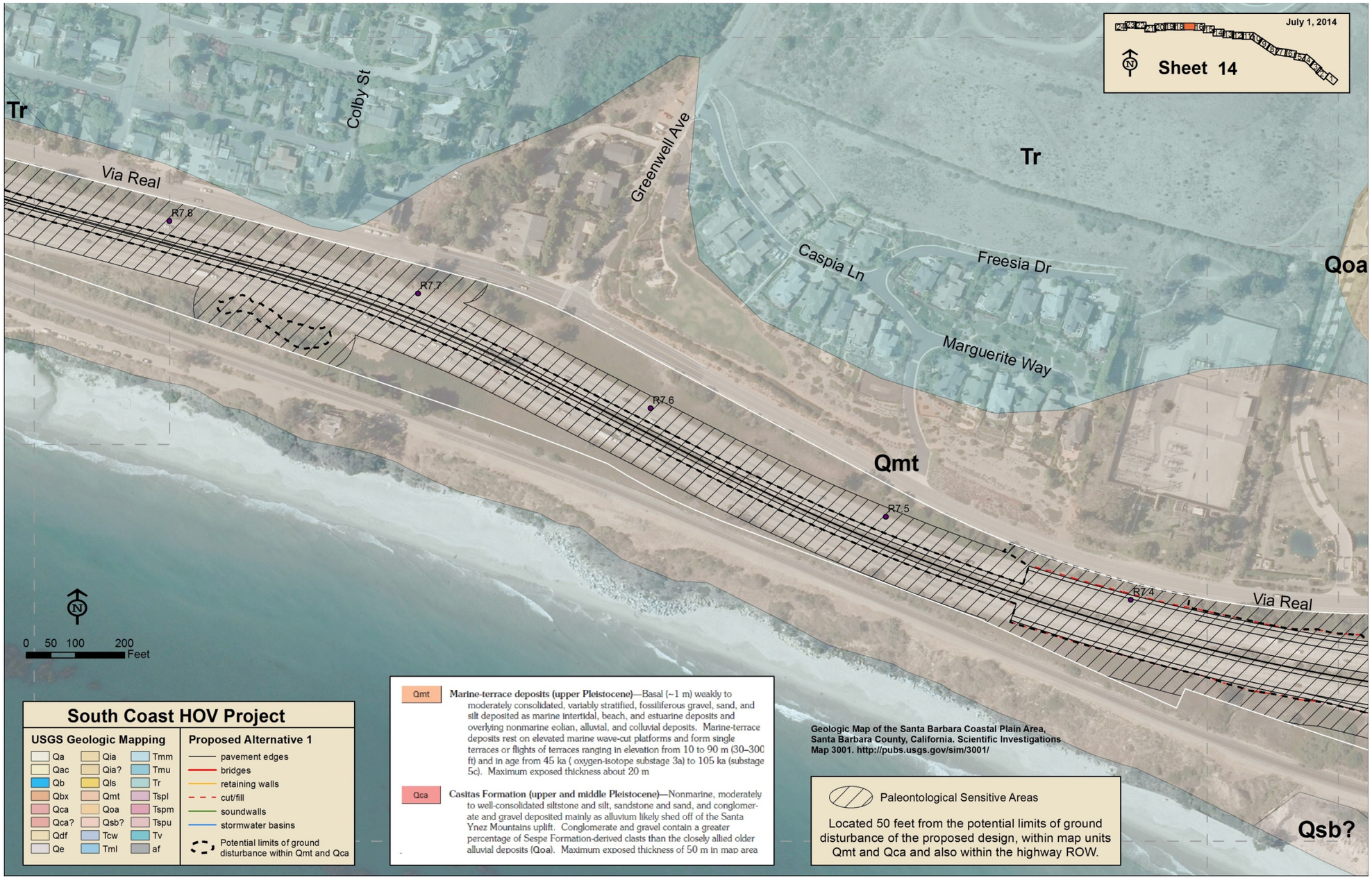
July 1, 2014
Sheet 14
Tr
Colby St
Via Real
Greenwell Ave
Tr
Caspia Ln
Freesia Dr
Qoa
Marguerite Way
Qmt
Via Real
Qsb?
R7.8
R7.7
R7.6
R7.5
R7.4
0 50 100 200
Feet
South Coast HOV Project
USGS Geologic Mapping
Qa
Qac
Qb
Qbx
Qca
Qca?
Qdf
Qe
Qia
Qia?
Qls
Qmt
Qoa
Qsb?
Tcw
Tml
Tmm
Tmu
Tr
Tspl
Tspm
Tspu
Tv
af
Proposed Alternative 1
pavement edges
bridges
retaining walls
cut/fill
soundwalls
stormwater basins
Potential limits of ground disturbance within Qmt and Qca
Qmt Marine-terrace deposits (upper Pleistocene)—Basal (~1 m) weakly to moderately consolidated, variably stratified, fossiliferous gravel, sand, and silt deposited as marine intertidal, beach, and estuarine deposits and overlying nonmarine eolian, alluvial, and colluvial deposits. Marine-terrace deposits rest on elevated marine wave-cut platforms and form single terraces or flights of terraces ranging in elevation from 10 to 90 m (30–300 ft) and in age from 45 ka (oxygen-isotope substage 3a) to 105 ka (substage 5c). Maximum exposed thickness about 20 m
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Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California. Scientific Investigations Map 3001. http://pubs.usgs.gov/sim/3001/
Paleontological Sensitive Areas
Located 50 feet from the potential limits of ground disturbance of the proposed design, within map units Qmt and Qca and also within the highway ROW.

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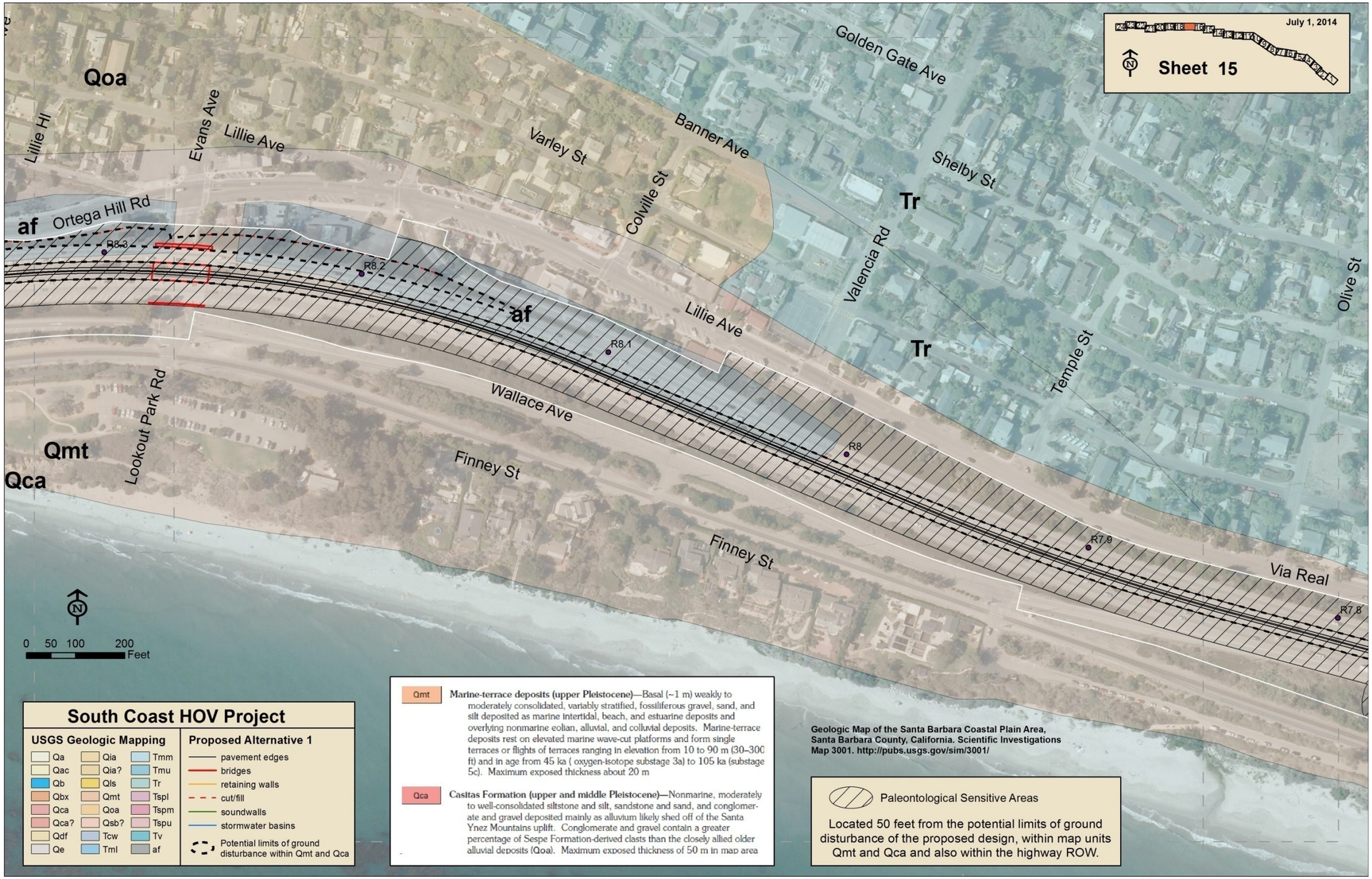
July 1, 2014
Sheet 15
Qoa
Lillie Hl
Evans Ave
Lillie Ave
Varley St
Colville St
Banner Ave
Golden Gate Ave
Shelby St
Tr
Valencia Rd
Olive St
Ortega Hill Rd
af
R8.3
R8.2
af
Lillie Ave
R8.1
Tr
Temple St
Wallace Ave
Lookout Park Rd
Qmt
Qca
Finney St
R8
Finney St
R7.9
Via Real
R7.8
0 50 100 200
Feet
South Coast HOV Project
USGS Geologic Mapping
Qa
Qac
Qb
Qbx
Qca
Qca?
Qdf
Qe
Qia
Qia?
Qls
Qmt
Qoa
Qsb?
Tcw
Tml
Tmm
Tmu
Tr
Tspl
Tspm
Tspu
Tv
af
Proposed Alternative 1
pavement edges
bridges
retaining walls
cut/fill
soundwalls
stormwater basins
Potential limits of ground disturbance within Qmt and Qca
Qmt
Marine-terrace deposits (upper Pleistocene)—Basal (~1 m) weakly to moderately consolidated, variably stratified, fossiliferous gravel, sand, and silt deposited as marine intertidal, beach, and estuarine deposits and overlying nonmarine eolian, alluvial, and colluvial deposits. Marine-terrace deposits rest on elevated marine wave-cut platforms and form single terraces or flights of terraces ranging in elevation from 10 to 90 m (30–300 ft) and in age from 45 ka (oxygen-isotope substage 3a) to 105 ka (substage 5c). Maximum exposed thickness about 20 m
Qca
Casitas Formation (upper and middle Pleistocene)—Nonmarine, moderately to well-consolidated siltstone and silt, sandstone and sand, and conglomerate and gravel deposited mainly as alluvium likely shed off of the Santa Ynez Mountains uplift. Conglomerate and gravel contain a greater percentage of Sespe Formation-derived clasts than the closely allied older alluvial deposits (Qoa). Maximum exposed thickness of 50 m in map area
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Paleontological Sensitive Areas
Located 50 feet from the potential limits of ground disturbance of the proposed design, within map units Qmt and Qca and also within the highway ROW.

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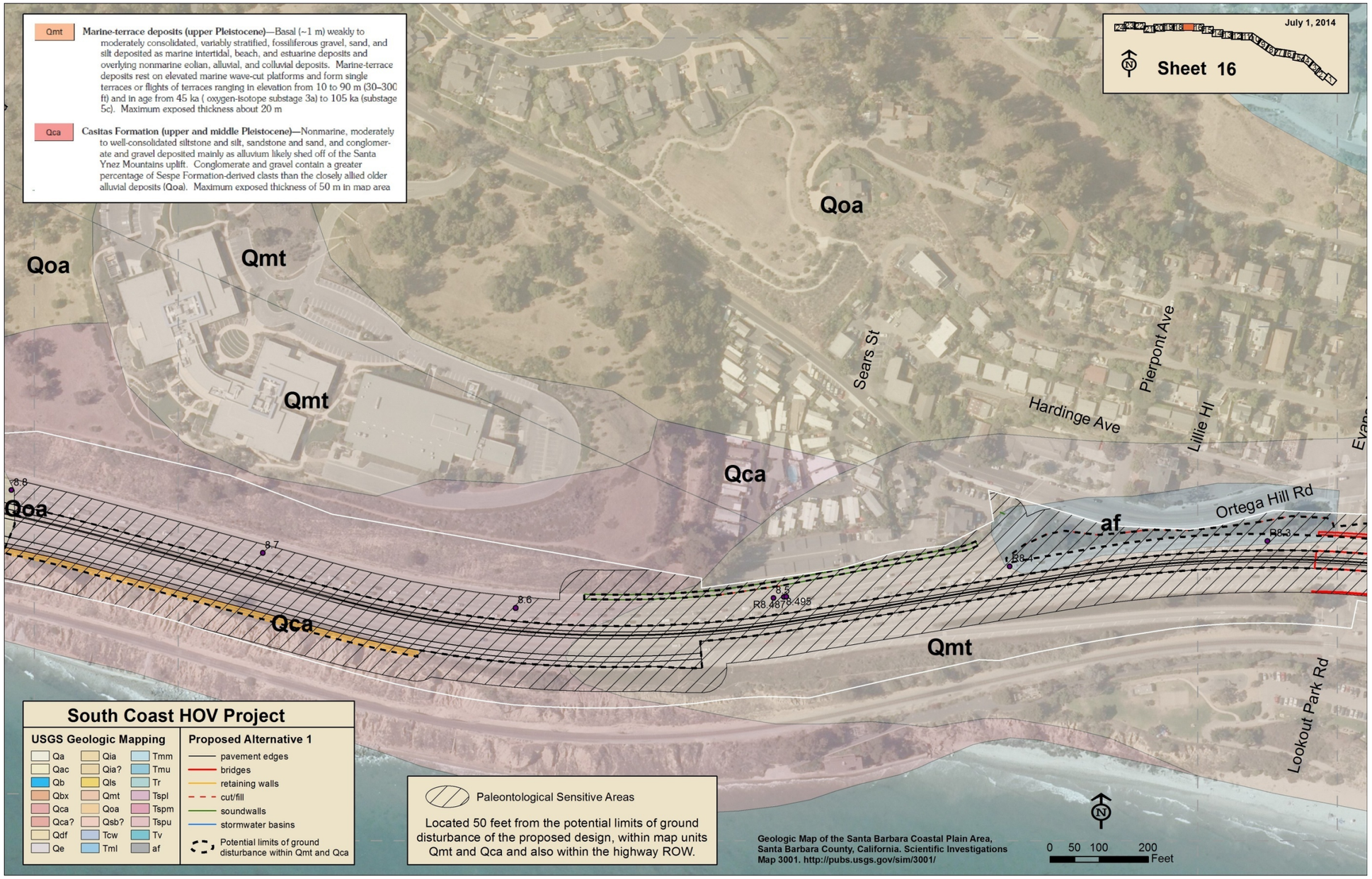
Qmt
Marine-terrace deposits (upper Pleistocene)—Basal (~1 m) weakly to moderately consolidated, variably stratified, fossiliferous gravel, sand, and silt deposited as marine intertidal, beach, and estuarine deposits and overlying nonmarine eolian, alluvial, and colluvial deposits. Marine-terrace deposits rest on elevated marine wave-cut platforms and form single terraces or flights of terraces ranging in elevation from 10 to 90 m (30–300 ft) and in age from 45 ka (oxygen-isotope substage 3a) to 105 ka (substage 5c). Maximum exposed thickness about 20 m
Qca
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July 1, 2014
Sheet 16
Qoa
Qmt
Qca
af
Sears St
Hardinge Ave
Pierpont Ave
Lillie Hl
Ortega Hill Rd
Lookout Park Rd
8.8
8.7
8.6
8.5
R8.4878.495
R8.4
R8.3
South Coast HOV Project
USGS Geologic Mapping
Qa
Qac
Qb
Qbx
Qca
Qca?
Qdf
Qe
Qia
Qia?
Qls
Qmt
Qoa
Qsb?
Tcw
Tml
Tmm
Tmu
Tr
Tspl
Tspm
Tspu
Tv
af
Proposed Alternative 1
pavement edges
bridges
retaining walls
cut/fill
soundwalls
stormwater basins
Potential limits of ground disturbance within Qmt and Qca
Paleontological Sensitive Areas
Located 50 feet from the potential limits of ground disturbance of the proposed design, within map units Qmt and Qca and also within the highway ROW.
Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California. Scientific Investigations Map 3001. http://pubs.usgs.gov/sim/3001/
0 50 100 200
Feet

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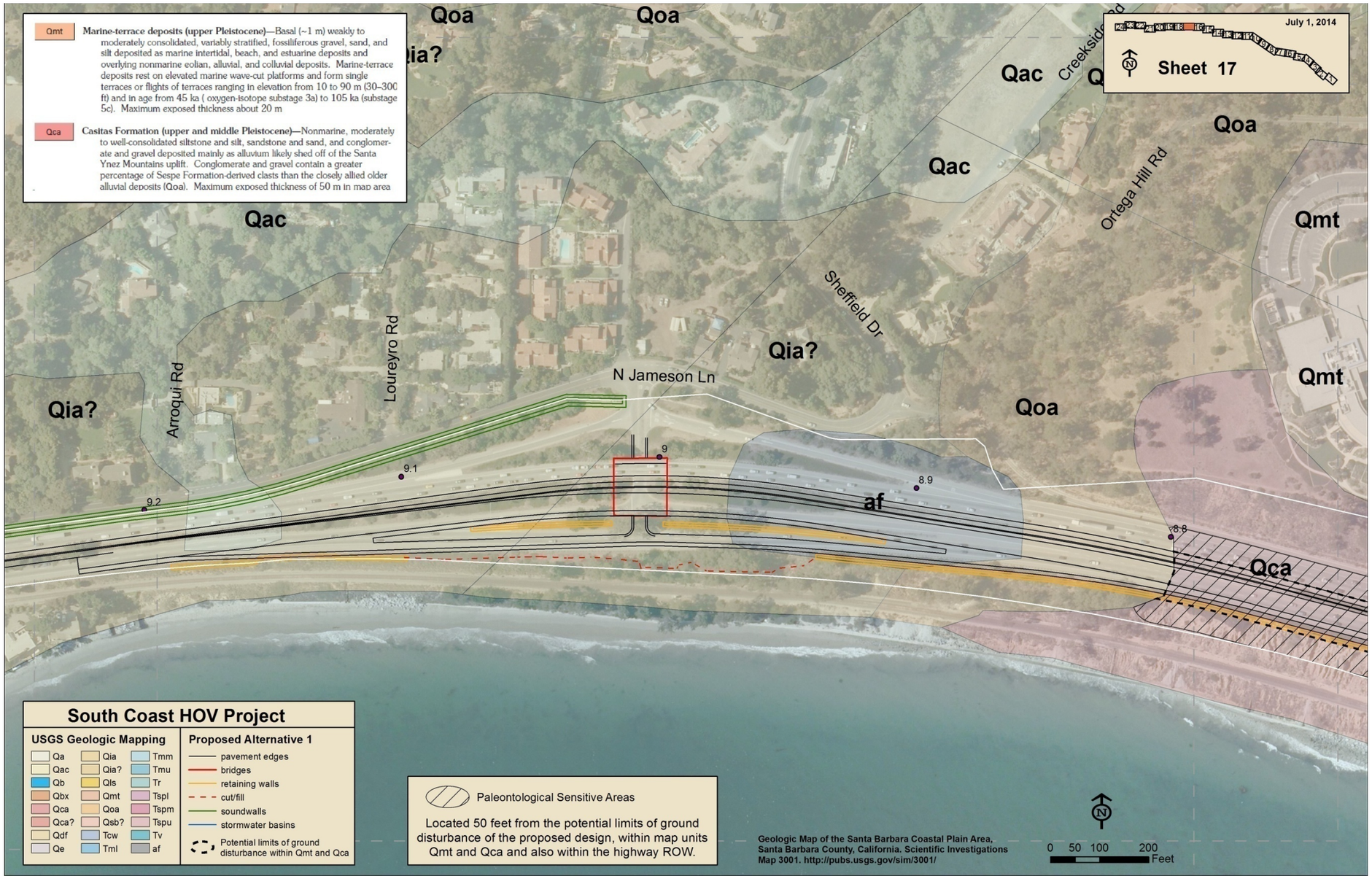
Qmt Marine-terrace deposits (upper Pleistocene)—Basal (~1 m) weakly to moderately consolidated, variably stratified, fossiliferous gravel, sand, and silt deposited as marine intertidal, beach, and estuarine deposits and overlying nonmarine eolian, alluvial, and colluvial deposits. Marine-terrace deposits rest on elevated marine wave-cut platforms and form single terraces or flights of terraces ranging in elevation from 10 to 90 m (30–300 ft) and in age from 45 ka (oxygen-isotope substage 3a) to 105 ka (substage 5c). Maximum exposed thickness about 20 m
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July 1, 2014
Sheet 17
Qoa
Qac
Qmt
Qia?
Qca
af
Creekside Rd
Ortega Hill Rd
Sheffield Dr
Loureyro Rd
Arroqui Rd
N Jameson Ln
9.2
9.1
9
8.9
8.8
South Coast HOV Project
USGS Geologic Mapping
Qa Qac Qb Qbx Qca Qca? Qdf Qe
Qia Qia? Qls Qmt Qoa Qsb? Tcw Tml
Tmm Tmu Tr Tspl Tspm Tspu Tv af
Proposed Alternative 1
pavement edges
bridges
retaining walls
cut/fill
soundwalls
stormwater basins
Potential limits of ground disturbance within Qmt and Qca
Paleontological Sensitive Areas
Located 50 feet from the potential limits of ground disturbance of the proposed design, within map units Qmt and Qca and also within the highway ROW.
Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California. Scientific Investigations Map 3001. http://pubs.usgs.gov/sim/3001/
0 50 100 200 Feet

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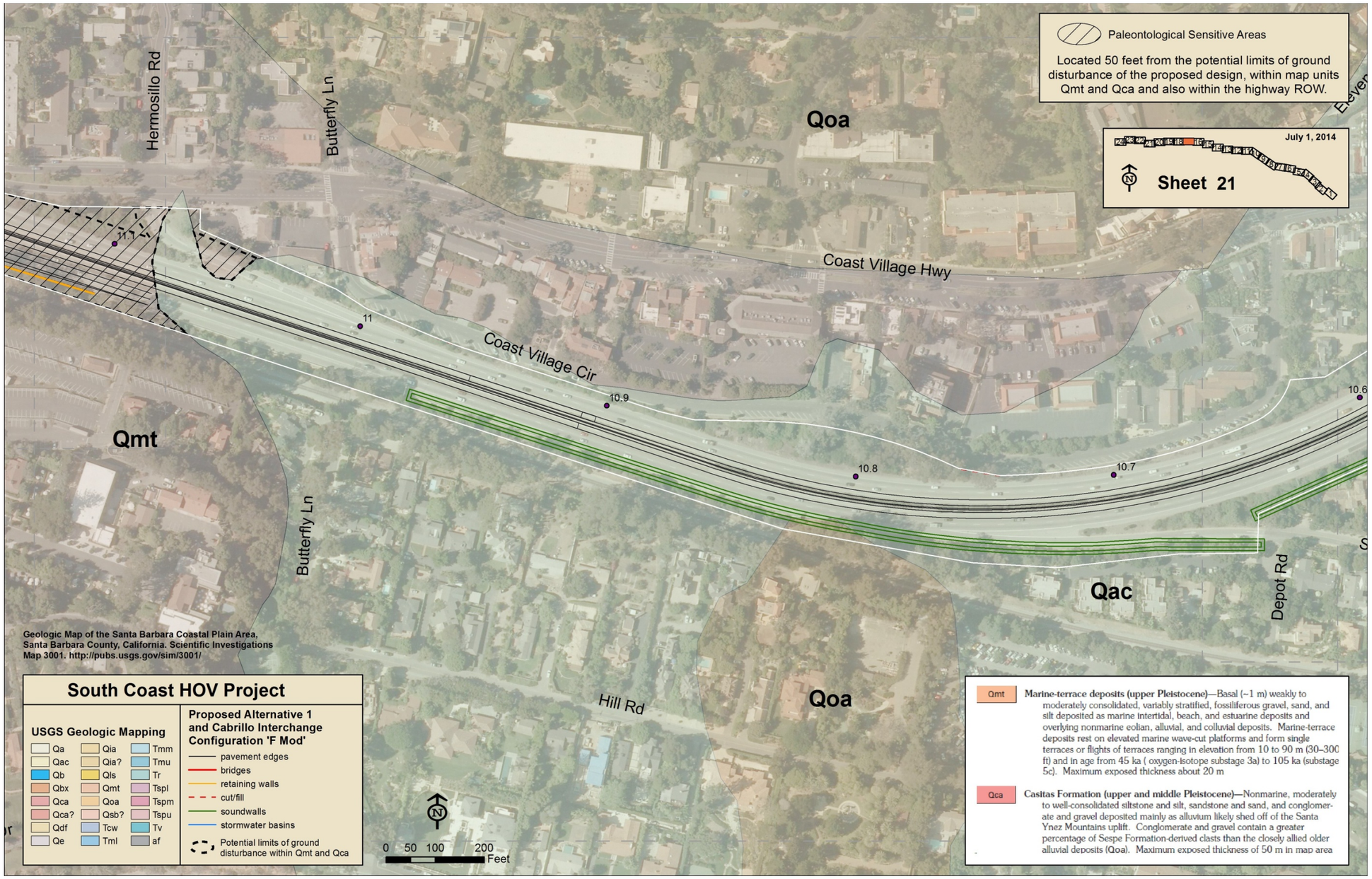
Paleontological Sensitive Areas
Located 50 feet from the potential limits of ground disturbance of the proposed design, within map units Qmt and Qca and also within the highway ROW.
July 1, 2014
Sheet 21
Hermosillo Rd
Butterfly Ln
Qoa
Coast Village Hwy
Coast Village Cir
Qmt
Qac
Depot Rd
Hill Rd
11.7
11
10.9
10.8
10.7
10.6
Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California. Scientific Investigations Map 3001. http://pubs.usgs.gov/sim/3001/
South Coast HOV Project
USGS Geologic Mapping
Qa
Qac
Qb
Qbx
Qca
Qca?
Qdf
Qe
Qia
Qia?
Qls
Qmt
Qoa
Qsb?
Tcw
Tml
Tmm
Tmu
Tr
Tspl
Tspm
Tspu
Tv
af
Proposed Alternative 1 and Cabrillo Interchange Configuration 'F Mod'
pavement edges
bridges
retaining walls
cut/fill
soundwalls
stormwater basins
Potential limits of ground disturbance within Qmt and Qca
0 50 100 200 Feet
Qmt Marine-terrace deposits (upper Pleistocene)—Basal (~1 m) weakly to moderately consolidated, variably stratified, fossiliferous gravel, sand, and silt deposited as marine intertidal, beach, and estuarine deposits and overlying nonmarine eolian, alluvial, and colluvial deposits. Marine-terrace deposits rest on elevated marine wave-cut platforms and form single terraces or flights of terraces ranging in elevation from 10 to 90 m (30–300 ft) and in age from 45 ka (oxygen-isotope substage 3a) to 105 ka (substage 5c). Maximum exposed thickness about 20 m
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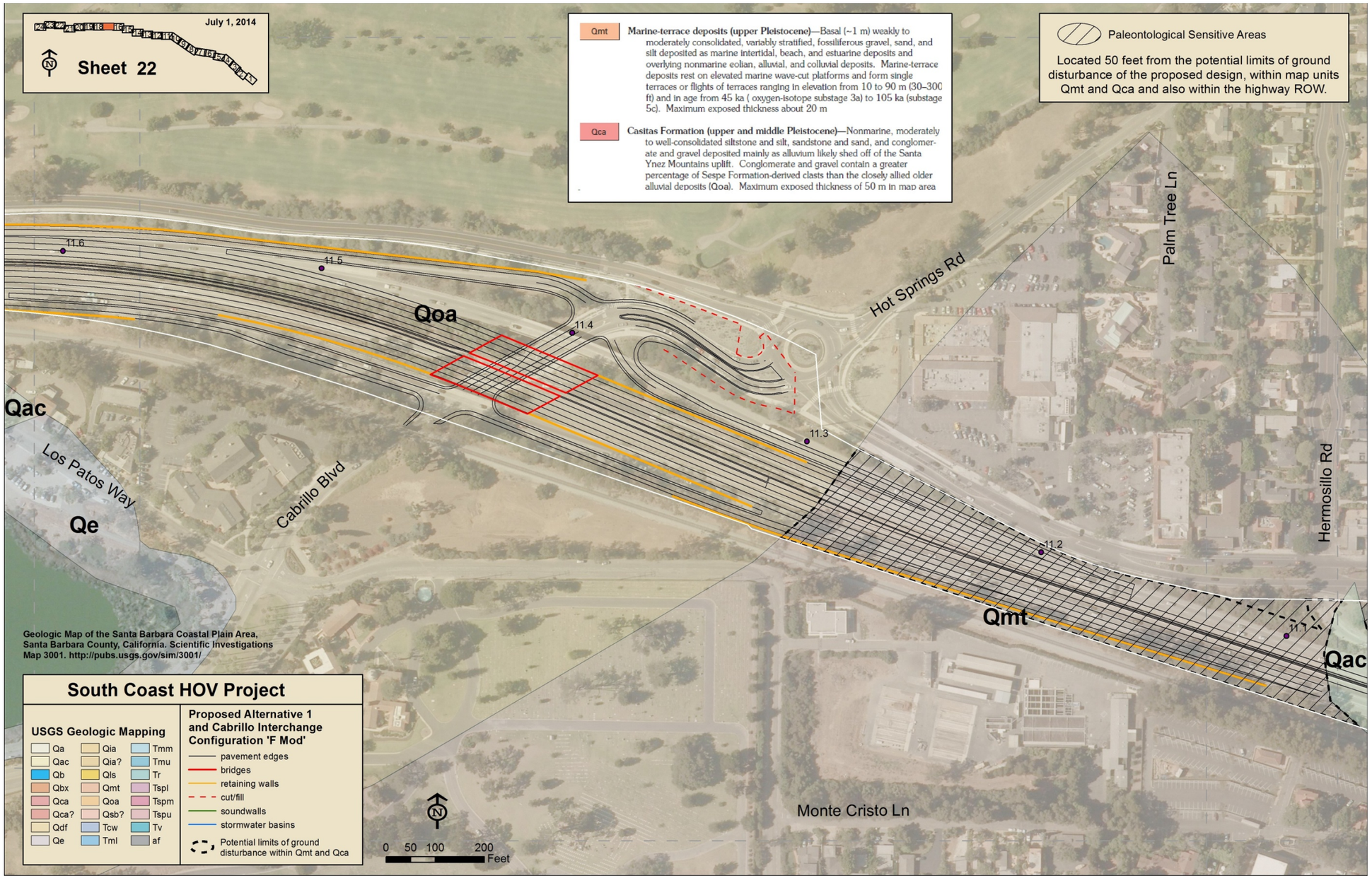
July 1, 2014
Sheet 22
Qmt
Marine-terrace deposits (upper Pleistocene)—Basal (~1 m) weakly to moderately consolidated, variably stratified, fossiliferous gravel, sand, and silt deposited as marine intertidal, beach, and estuarine deposits and overlying nonmarine eolian, alluvial, and colluvial deposits. Marine-terrace deposits rest on elevated marine wave-cut platforms and form single terraces or flights of terraces ranging in elevation from 10 to 90 m (30–300 ft) and in age from 45 ka (oxygen-isotope substage 3a) to 105 ka (substage 5c). Maximum exposed thickness about 20 m
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Paleontological Sensitive Areas
Located 50 feet from the potential limits of ground disturbance of the proposed design, within map units Qmt and Qca and also within the highway ROW.
Hot Springs Rd
Palm Tree Ln
Hermosillo Rd
Cabrillo Blvd
Los Patos Way
Monte Cristo Ln
Qoa
Qac
Qe
Qmt
11.6
11.5
11.4
11.3
11.2
11.1
Geologic Map of the Santa Barbara Coastal Plain Area, Santa Barbara County, California. Scientific Investigations Map 3001. http://pubs.usgs.gov/sim/3001/
South Coast HOV Project
USGS Geologic Mapping
Qa
Qac
Qb
Qbx
Qca
Qca?
Qdf
Qe
Qia
Qia?
Qls
Qmt
Qoa
Qsb?
Tcw
Tml
Tmm
Tmu
Tr
Tspl
Tspm
Tspu
Tv
af
Proposed Alternative 1 and Cabrillo Interchange Configuration 'F Mod'
pavement edges
bridges
retaining walls
cut/fill
soundwalls
stormwater basins
Potential limits of ground disturbance within Qmt and Qca
0 50 100 200 Feet

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